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EXAMINER

LELE, TANMAY S

ART UNIT

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2684

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16

Please find below and/or attached an Office communication concerning this application or proceeding.

D

Office Action Summary

Application No.

10/075,083

Applicant(s)

BRINKLEY ET AL.

Examiner

Tanmay S Lele

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 13.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1 – 11 and 13 – 25 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments filed 17 November 2003, with respect to the Double Patenting Rejection, have been fully considered but they are not persuasive.
3. In response to applicant's argument that "Since the referenced application teaches manual control the reference teaches away from a processor responsive to data to control a switch, as set forth in claim 13," a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Regarding claims 1 – 11 and 13 –25, Applicant attempts to overcome the rejection by stating, "Since the referenced application teaches manual control, the reference teaches away from a processor responsive to data to control a switch, as set forth in claim 13," and further "Thus, per M.P.E.P. 2145, it is impermissible to use U. S. Patent No. 6,671,589 alone, or in combination, to render the claimed subject matter obvious." Note it is respectfully believed that that claim 18 of US Patent Application 10/042,374, teaches of "automatically." Claim 11 read of reads, "A software programmable electronic switch used to select a target aircraft LRU ..." (claim 11, lines 12 – 14) and further as stated in claim 18, "...embedded software resident on the

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apparatus that provides a fault consolidation and correlation function, whereby the output of this function may be automatically routed...". Additionally, note that claim 7 of US Patent Application 10/042,374 teaches of, "...transferring of ACMS FOQA reports to an on-aircraft storage location resident on any network addressable device and subsequent automatic transmission to a wireless ground-based node upon landing..." and claim 9 further teaches of "...automatic routing of collected LRU data based on customer modifiable triggering criteria..." both of which further indicate that the process is potentially capable of "automatically switching" as currently claimed. Hence Examiner is not persuaded that the presently claimed is not taught or recited by the cited reference, as broadly interpreted.

Priority

4. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119 (e) as follows:

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application); the disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

5. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged.

However, the provisional application upon which priority is claimed fails to provide adequate support under 35 U.S.C. 112 for claims 1 – 11 and 13 – 25 of this application. ***Claim Rejections***

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6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1 and 9 recite the limitation "said electronically switched communication path" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claims 2 – 8 and 10 and 11 are rejected for at least those reasons cited for independent claims 1 and 9, respectively.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1, 2, 6 and 9 – 11 provisionally rejected under the judicially created doctrine of double patenting over claims 1 – 9 of copending Application No. 10/075,032. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

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Regarding claim 1, the present invention is of a method for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus, said method comprising (as seen in claims 1 – 9 of US 10/075,032): wirelessly communicating download data for one said avionics unit from the data communication apparatus to an aircraft data services link in the aircraft (as seen in claims 1 – 9 of US 10/075,032); automatically switching a communication path from said aircraft data services link to said avionics unit responsive to said download data (as seen in claims 1 – 9 of US 10/075,032); and electronically communicating said download data from said data communication apparatus to said avionics unit via said electronically switched communication path (as seen in claims 1 – 9 of US 10/075,032).

Regarding claim 2, the present invention is of wherein said wirelessly communicating download data comprises wirelessly communicating said download data via a wireless spread spectrum link (as seen in claim 4 of US 10/075,032).

Regarding claim 6, the present invention is of wherein said electronically switched communication path comprises an ARINC 429 bus (as seen in claim 1 of US 10/075,032).

Regarding claim 9, the present invention is of a method for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus (as seen in claims 1 – 9 of US 10/075,032), said method comprising: automatically switching a communication path from one said avionics unit to an aircraft data services link in the aircraft (as seen in claims 1 – 9 of US 10/075,032); electronically communicating data from said avionics unit to said aircraft data services link via said electronically switched communication path (as seen in claims 1 – 9 of US 10/075,032); and wirelessly communicating said data from said

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aircraft data services link to said data communication apparatus (as seen in claims 1 – 9 of US 10/075,032).

Regarding claim 10, the present invention is of wherein said electronically switched communication path comprises an ARINC 429 bus (as seen in claims 1 – 9 of US 10/075,032).

Regarding claim 11, the present invention is of further comprising electronically communicating aircraft performance data from at least one member of a group consisting of an aircraft condition monitoring system on said aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition unit to said aircraft data services link, and wirelessly transmitting said aircraft performance data from said aircraft data services link to said data communication apparatus (as seen in claims 1 – 9 of US 10/075,032).

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

9. Claims 1 – 11 and 13 – 25 rejected under the judicially created doctrine of double patenting over claims 1 – 18 of U. S. Patent No. 6,671,589 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows:

Regarding claim 1 of the present application, the present invention is of a method for wirelessly communicating data between a plurality of avionics units on an aircraft and a data

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communication apparatus, said method comprising: wirelessly communicating download data for one said avionics unit from the data communication apparatus to an aircraft data services link in the aircraft; automatically switching a communication path from said aircraft data services link to said avionics unit responsive to said download data; and electronically communicating said download data from said data communication apparatus to said avionics unit via said electronically switched communication path (as seen in claims 11, 12, and 6 – 10 of U. S. Patent No. 6,671,589).

Regarding claim 2, the present invention teaches all the claimed limitations as recited in claim 1 and further teaches of wherein said wirelessly communicating download data comprises wirelessly communicating said download data via a wireless spread spectrum link (as seen in claims 11, 12, and 6 – 10 of U. S. Patent No. 6,671,589).

Regarding claim 3, the present invention teaches all the claimed limitations as recited in claim 1 and further teaches of comprising electronically communicating fault information pertaining to said download data from said avionics unit to said aircraft data services link via an electronically switched communication path, and wirelessly communicating said fault information from said aircraft data services link to said data communication apparatus (as seen in claims 11, 12, and 6 – 10 of U. S. Patent No. 6,671,589).

Regarding claim 4, the present invention teaches all the claimed limitations as recited in claim 1 and further teaches of comprising electronically communicating aircraft performance data from an aircraft condition monitoring system on said aircraft to said aircraft data services link, and wirelessly transmitting said aircraft performance data from said aircraft data services

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link to said data communication apparatus (as seen in claims 11, 12, and 6 – 10 of U. S. Patent No. 6,671,589).

Regarding claim 5, the present invention teaches all the claimed limitations as recited in claim 4 and further teaches of comprising said aircraft condition monitoring system obtaining said aircraft performance data via an electronic communication from at least one member of the group consisting of an aircraft communication and reporting system on said aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition unit on the aircraft (as seen in claims 11, 12, and 6 – 10 of U. S. Patent No. 6,671,589).

Regarding claim 6, the present invention teaches all the claimed limitations as recited in claim 1 and further teaches of wherein said electronically switched communication path comprises an ARINC 429 bus (as seen in claims 11, 12, and 6 – 10 of U. S. Patent No. 6,671,589).

Regarding claim 7, the present invention teaches all the claimed limitations as recited in claim 1 and further teaches of wherein said download data comprises an ARINC 615 or ARINC 615A compliant data (as seen in claims 11, 12, and 6 – 10 of U. S. Patent No. 6,671,589).

Regarding claim 8, the present invention teaches all the claimed limitations as recited in claim 1 and further teaches of wherein said download data comprises flight operations quality assurance data (as seen in claims 11, 12, 6 – 10, 1 and 3 of U. S. Patent No. 6,671,589).

Regarding claim 9, the present invention is of a method for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus, said method comprising: automatically switching a communication path from one said avionics unit to an aircraft data services link in the aircraft; electronically communicating data from said

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avionics unit to said aircraft data services link via said electronically switched communication path; and wirelessly communicating said data from said aircraft data services link to said data communication apparatus (as seen in claims 11, 12, 6 – 10, and 1 – 4 of U. S. Patent No. 6,671,589).

Regarding claim 10, the present invention teaches all the claimed limitations as recited in claim 9 and further teaches of wherein said electronically switched communication path comprises an ARINC 429 bus (as seen in claims 11, 12, 6 – 10, and 1 – 4 of U. S. Patent No. 6,671,589).

Regarding claim 11, the present invention teaches all the claimed limitations as recited in claim 9 and further teaches of comprising electronically communicating aircraft performance data from at least one member of a group consisting of an aircraft condition monitoring system on said aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition unit to said aircraft data services link, and wirelessly transmitting said aircraft performance data from said aircraft data services link to said data communication apparatus (as seen in claims 11, 12, 6 – 10, and 1 – 4 of U. S. Patent No. 6,671,589).

Regarding claim 13, the present invention is of an apparatus for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus external to the aircraft, said apparatus comprising, onboard an aircraft: an aircraft data services link having a processor, means for wirelessly transmitting and receiving data to and from a data communication apparatus external to the aircraft, and an electronic switch; a plurality of avionics units coupled to said remotely controllable switch; wherein said processor is responsive to data received from the data communication apparatus via said means

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for wireless transmitting and receiving to identify an intended destination from said avionics unit from information contained in a standard format of downloaded ARINC 615 or 615A compliant data, and to automatically control said electronic switch to selectively couple said intended destination avionics s unit to said aircraft data services link to provide data communication between a said intended destination avionics unit and the data communication apparatus via said aircraft data services link (as seen in claims 11, 12, 6 – 10, and 1 – 4 of U. S. Patent No. 6,671,589).

Regarding claim 15, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of wherein said means for wireless transmitting and receiving comprises a spread spectrum receiver and transmitter (as seen in claims 11, 12, 6 – 10, and 1 – 4 of U. S. Patent No. 6,671,589).

Regarding claim 18, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of comprising an aircraft condition monitoring system on the aircraft, said aircraft condition monitoring system electronically coupled to said aircraft data services link, wherein said processor is responsive to data transferred from said aircraft condition monitoring system to said aircraft data services link and configured to schedule wireless transmission of said data transferred from said aircraft condition monitoring system to the data communication apparatus (as seen in claims 11, 12, 6 – 10, and 1 – 4 of U. S. Patent No. 6,671,589).

Regarding claim 19, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of comprising at least one member of the group consisting of an aircraft communication and reporting system on the aircraft, a maintenance control display unit

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on said aircraft, and a digital flight data acquisition unit on the aircraft, and wherein said at least one member is operatively coupled to said aircraft condition monitoring system to communicate information to data communication apparatus wirelessly via said aircraft data services link (as seen in claims 11, 12, 6 – 10, and 1 – 4 of U. S. Patent No. 6,671,589).

Regarding claim 20, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of wherein at least two of said plurality of avionics units coupled to said remotely controllable switch are coupled to said remotely controllable switch via A429 ARINC 429 busses (as seen in claims 11, 12, 6 – 10, and 1 – 4 of U. S. Patent No. 6,671,589).

Regarding claim 21, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of wherein said aircraft data services link is configured to communicate ARINC 615 compliant data to at least some of said avionics units (as seen in claims 11, 12, 6 – 10, and 1 – 4 of U. S. Patent No. 6,671,589).

Regarding claim 22, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of wherein said aircraft data services link includes a memory coupled to said processor, and said processor is configured to maintain a database in said memory containing version identifiers of software in said avionics units, and to update said database when data transmitted from said data communication apparatus is communicated to an avionics unit via said aircraft data services link (as seen in claims 11, 12, 6 – 10, and 1 – 4 of U. S. Patent No. 6,671,589).

Regarding claim 23, the present invention teaches all the claimed limitations as recited in claim 13 and further teaches of configured to wirelessly download flight quality assurance data (as seen in claims 11, 12, 6 – 10, and 1 – 4 of U. S. Patent No. 6,671,589).

Regarding claim 25, the present invention is of an apparatus for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus external to the aircraft, said apparatus comprising, onboard an aircraft: an aircraft data services link having a processor and means for wirelessly transmitting to a data communication apparatus external to the aircraft; a plurality of avionics units coupled to a remotely controllable electronic switch; wherein said processor is responsive to data received from the data communication apparatus via said means for wireless transmitting and receiving to identify an intended destination from said avionics unit from information contained in a standard format of downloaded ARINC 615 or 615A compliant data, and to automatically control said electronic switch to selectively couple said intended destination avionics unit to said aircraft data services link to provide data communication between a said intended destination avionics unit and the data communication apparatus via said aircraft data services link (as seen in claims 11, 12, 6 – 10, and 1 – 4 of U. S. Patent No. 6,671,589).

Regarding claim 25, the present invention teaches all the claimed limitations as recited in claim 1 and further teaches of wherein said electronically switching a communication path further comprises identifying an intended destination said avionics unit from information contained in a standard format of downloaded ARINC 615 or 615A compliant data (as seen in claims 11, 12, 6 – 10, and 1 – 4 of U. S. Patent No. 6,671,589).

10. Claims 14 and 16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 – 18 of U. S. Patent No. 6,671,589 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows:

Regarding claims 14, 16, and 17 the present invention teaches all the claimed limitations as recited in claim 13. Claim 7 of U. S. Patent No. 6,671,589 teaches of a WAN and LAN using wireless spread spectrum technology. However, Claim 7 of the U. S. Patent No. 6,671,589 does not specifically state IEEE 802.11 or 802.11a or AM. IEEE 802.11 or 802.11a or AM transceivers are claim 7 teaches which are commonly known in the art to be IEEE 802.11 devices is a matter of system preference and is very well known in the art, thus the Examiner takes "Official Notice" as such. Therefore it would have been obvious to one skilled in the art, at the time of invention, to combine U. S. Patent No. 6,671,589 with the IEEE 802.11 or AM transceivers in order for the devices to communicate, as taught by U. S. Patent No. 6,671,589.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(f) he did not himself invent the subject matter sought to be patented.

12. Claims 1 – 11 and 13 – 25 are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter.

Regarding claims 1 – 11 and 13 – 25, after review of provisional application 60/268,085 along with US application 10/042,374 (now US Patent 6,671,589) and the present application (10/075,083), it is respectfully believed the currently claimed invention has been derived from the above cited application and now patent. Note that the provisional application relates to the wireless up and download of data to and from a ground station and further that automated electronic switching is present, routing data to the appropriate unit located on the aircraft (see provisional 60/268,085 “Abstract” and “Summary of Invention” sections, which correspond to US Patent 6,671,589’s “Abstract” and “Summary of Invention” sections). This matter relates directly to claimed matter seen independent claims 1, 9, 13, and 24.

Note further the inventive entity from the current application (10/075,083) and those of the cases listed above (provisional 60/268,085 and US 6,671,589) are uncommon, aside from one inventor. Further noted that the present application (10/075,083) is being made on behalf of this one common inventor who in this instant application is a non-signing inventor (as per the granted CFR 1.47).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1 – 5, 7 – 9, 11, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Hiett et al. (Hiett, US Patent No. 6,477,152).

Regarding claim 1, Wright teaches of a method for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus, said method comprising (column 1, lines 42 – 47 and column 7 lines 2 – 7): wirelessly communicating download data for one said avionics unit from the data communication apparatus to an aircraft data services link in the aircraft (column 1, lines 42 – 47 and Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8) and electronically communicating said download data from said data communication apparatus to said avionics unit (Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8 and column 7, lines 13 – 29 and column 6, lines 25 –41).

Wright does not explicitly teach of automatically switching a communication path [from said aircraft data services link to said avionics unit] responsive to said download data or of [electronically communicating said download data from said data communication apparatus to said avionics unit] via said electronically switched communication path (though makes reference to multiple units coupled to a data line).

In a related art dealing with an airline data retrieval and dissemination system, Hiatt teaches of automatically switching a communication path [from said aircraft data services link to said avionics unit] responsive to said download data or of [electronically communicating said download data from said data communication apparatus to said avionics unit] via said electronically switched communication path (Figure 3 and starting column 4, line 62 and ending column 5, line 21).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright's programming method, Hielt's information routing means, for the purposes accurately routing requested information to the proper terminal, as taught by Hielt.

Regarding claim 2, Wright in view of Hielt, teach all the claimed limitations as recited in claim 1. Wright further teaches of wherein said wirelessly communicating download data comprises wirelessly communicating said download data via a wireless spread spectrum link (column 2, lines 25 – 29 and column 5, lines 43 – 47).

Regarding claim 4, Wright in view of Hielt, teach all the claimed limitations as recited in claim 1. Wright further teaches of comprising electronically communicating aircraft performance data from an aircraft condition monitoring system on said aircraft to said aircraft data services link (column 5, lines 48 – 64 and starting column 6 line 59 – and ending column 7, line 7), and wirelessly transmitting said aircraft performance data from said aircraft data services link to said data communication apparatus (column 6, lines 25 – 41).

Regarding claim 5, Wright in view of Hielt, teach all the claimed limitations as recited in claim 4. Wright further teaches of comprising said aircraft condition monitoring system obtaining said aircraft performance data via an electronic communication from at least one member of the group consisting of an aircraft communication and reporting system on said aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition unit on the aircraft (column 5, lines 38 – 64 and further in starting column 6, line 59 and ending column 7, line 33).

Regarding claim 7, Wright in view of Hiett, teach all the claimed limitations as recited in claim 1. Wright further teaches wherein said download data comprises an ARINC 615 or ARINC 615A compliant data (column 31, lines 46 – 54).

Regarding claim 8, Wright in view of Hiett, teach all the claimed limitations as recited in claim 1. Wright further teaches of wherein said download data comprises flight operations quality assurance data (column 6, lines 25 – 41).

Regarding claim 9, Wright teaches of a method for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus, said method comprising: electronically communicating data from said avionics unit to said aircraft data services link (Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8 and column 7, lines 13 – 29) and wirelessly communicating said data from said aircraft data services link to said data communication apparatus (column 1, lines 42 – 47 and Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8 and column 6, lines 25 – 41).

Wright does not specifically teach of electronically switching a communication path [from one said avionics unit to an aircraft data services link in the aircraft] and [electronically communicating data from said avionics unit to said aircraft data services link] via said electronically switched communication path (though makes reference to multiple units coupled to a data line).

In a related art dealing with an airline data retrieval and dissemination system, Hiett teaches of electronically switching a communication path [from one said avionics unit to an aircraft data services link in the aircraft] and [electronically communicating data from said

avionics unit to said aircraft data services link] via said electronically switched communication path (Figure 3 and starting column 4, line 62 and ending column 5, line 21).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright's programming method, Hiett's information routing means, for the purposes accurately routing requested information to the proper terminal, as taught by Hiett.

Regarding claim 11, Wright in view of Hiett, teach all the claimed limitations as recited in claim 9. Wright further teaches of comprising electronically communicating aircraft performance data from at least one member of a group consisting of an aircraft condition monitoring system on said aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition unit to said aircraft data services link (column 4, lines 49 – 55 and column 6, lines 34 – 41 and starting column 6, line 59 and ending column 7, line 12), and wirelessly transmitting said aircraft performance data from said aircraft data services link to said data communication apparatus (column 1, lines 42 – 47 and column 6, lines 26 – 42).

Regarding claim 25, Wright in view of Hiett, teach all the claimed limitations as recited in claim 1. Wright further teaches of wherein said electronically switching a communication path further comprises identifying an intended destination said avionics unit from information contained in a standard format of downloaded ARINC 615 or 615A compliant data (column 31, lines 46 – 54).

15. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Hiett et al. (Hiett, US Patent No. 6,477,152) as applied to claim 1, and further in view of McCarten et al. (McCarten, US Patent No. 6,559,812).

Regarding claim 3, Wright in view of Hielt, teach all the claimed limitations as recited in claim 1. Wright in view of Hielt teach of further comprising electronically communicating information pertaining to said download data from said avionics unit to said aircraft data services link via an electronically switched communication path and wirelessly communicating [said fault information] from said aircraft data services link to said data communication apparatus (Wright: column 6, lines 25 – 41 and Hielt: (Figure 3 and starting column 4, line 62 and ending column 5, line 21).

Wright in view of Hielt do not specifically teach of fault information.

In a related art dealing with airline communication systems, McCarten teaches of fault information (starting column 15, line 59 and ending column 16, line 9).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright and Hielt's on board programming method, McCarten's error status, for the purposes indication of error in the downloading (to re-load for example), as taught by McCarten.

16. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Hielt et al. (Hielt, US Patent No. 6,477,152) as applied to claims 1 and 9 above, and further in view of Weiler et al. (Weiler, US Patent No. 5,970,395).

Regarding claims 6 and 10, Wright in view of Hielt, teach all the claimed limitations as recited in claims 1 and 9. Wright in view of Hielt, do not specifically teach of wherein said electronically switched communication path comprises an ARINC 429 bus.

In a related art dealing with avionics equipment, Weiler teaches of wherein said electronically switched communication path comprises an ARINC 429 bus (column 6, lines 14 – 22).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright and Hiett's programming method, Weiler's bus, for the purposes of using a standardized bus already present on aircraft (thus preventing the need for additional hardware) as taught by Weiler.

17. Claims 13 – 16, 18, 19, and 21 – 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Hiett et al. (Hiett, US Patent No. 6,477,152) in further view of Bird et al. (Bird, US Patent No. 5,079,707).

Regarding claim 13, Wright teaches of an apparatus for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus external to the aircraft, said apparatus comprising, onboard an aircraft (column 1, lines 42 – 47 and column 4, lines 49 – 55): an aircraft data services link having a processor, means for wirelessly transmitting and receiving data to and from a data communication apparatus external to the aircraft (as seen in Figures 13 and 14 and detailed starting column 6, line 59 and ending column 7, line 29), a plurality of avionics units (column 7, lines 2 – 7); wherein said processor is responsive to data received from the data communication apparatus via said means for wireless transmitting and receiving to identify an intended destination said avionics unit from information contained in a standard format of downloaded ARINC 615 or 615A complaint data and to provide data communication between a said intended destination avionics unit and the data

communication apparatus via said aircraft data services link (as seen in Figures 13 and 14 and detailed starting column 6, line 59 and ending column 7, line 30 and column 31, lines 46 – 54).

Wright does not specifically teach of an electronic switch, [a plurality of avionics units coupled] to said remotely controllable switch, or to control said electronic switch [to selectively couple said intended destination said avionics units to said aircraft data services link].

In a related art dealing with an airline data retrieval and dissemination system, Hiett teaches of an electronic switch and [a plurality of avionics units coupled] to said switch (Figure 3 and starting column 4, line 62 and ending column 5, line 21).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright's programming method, Hiett's information routing means, for the purposes accurately routing requested information to the proper terminal, as taught by Hiett.

Wright in view of Hiett, still do not teach of a remote controllable switch or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link].

In a related art dealing with avionics testing, Bird teaches of a remote controllable switch or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link] (column 5, lines 45 – 63).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright and Hiett's communication system, Bird's controllable switch, for the purposes of certifying avionics equipment without human intervention (and thus possible error), as taught by Bird.

Regarding claim 14, Wright in view of Hiett and Bird, teach all the claimed limitations as recited in claim 13. Wright further discloses the use of the ISM 2.4 GHz band as the medium for

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transmission and reception and further details the use of a spread spectrum transceiver (column 9, lines 20 – 49 and column 12, lines 9 – 40). However, Wright does not explicitly show of using the 802.11 standard for the transceiver. The use of 802.11 is a matter of system preference and it should further be noted that many of the parameters detailed by Wright in the cited passages, are all facets of the 802.11b standard (ie frequency range, multiple access scheme, data rates, the inclusion of multiple modulation techniques, ect) and thus Examiner takes “Official Notice.” Therefore, it would have been obvious to one skilled in the art at the time of invention to have combined Wright in view of Hiett and Bird, with the 802.11 standard for communications purposes, as taught inferred by Wright.

Regarding claim 15, Wright in view of Hiett and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches of wherein said means for wireless transmitting and receiving comprises a spread spectrum receiver and transmitter (column 9, lines 20 – 49 and column 12, lines 9 – 40).

Regarding claim 16, Wright in view of Hiett and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches the use of utilizing the ISM 2.4 GHz band as the range for transmission and reception of data. However, Wright does not teach wherein said means for wireless transmitting and receiving comprises an IEEE 802.11a receiver and transmitter. The use of 802.11a is a matter of system preference and thus Examiner takes “Official Notice.” Therefore, it would have been obvious to one skilled in the art at the time of invention to have combined Wright in view of Hiett and Bird, with the 802.11a standard for communications purposes in an unlicensed ISM band, as taught inferred by Wright (note that 802.11a resides in the 5.8 GHz band).

Regarding claim 18, Wright in view of Hiett and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches of comprising further comprising an aircraft condition monitoring system on the aircraft (Figure 13 and column 6, lines 50 – 58), said aircraft condition monitoring system electronically coupled to said aircraft data services link (starting column 6, line 59 and ending column 7, line 12), wherein said processor is responsive to data transferred from said aircraft condition monitoring system to said aircraft data services link (starting column 6, line 59 and ending column 7, line 12) and configured to schedule wireless transmission of said data transferred from said aircraft condition monitoring system to the data communication apparatus column 6, lines 26 – 49).

Regarding claim 19, Wright in view of Hiett and Bird, teach all the claimed limitations as recited in claim 18. Wright further teaches of comprising at least one member of the group consisting of an aircraft communication and reporting system on the aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition unit on the aircraft (column 7, lines 1 – 7), and wherein said at least one member is operatively coupled to said aircraft condition monitoring system to communicate information to data communication apparatus wirelessly via said aircraft data services link (column 5, lines 38 – 64 and further in starting column 6, line 59 and ending column 7, line 33).

Regarding claim 21, Wright in view of Hiett and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches wherein said download data comprises an ARINC 615 or ARINC 615A compliant data (column 31, lines 46 – 54).

Regarding claim 22, Wright in view of Hiett and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches of wherein said aircraft data services link includes a

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memory coupled to said processor (as seen in Figure 13 and column 7, lines 16 - 29), and said processor is configured to maintain a database in said memory containing version identifiers of software in said avionics units (Figure 13 and column 7, lines 13 - 29 and column 5, lines 56 - 64), and to update said database when data transmitted from said data communication apparatus is communicated to an avionics unit via said aircraft data services link (Figure 13 and column 7, lines 13 - 29).

Regarding claim 23, Wright in view of Hiett and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches of configured to wirelessly download flight quality assurance data (column 6, lines 25 - 40).

Regarding claim 24, Wright teaches of an apparatus for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus external to the aircraft, said apparatus comprising, onboard an aircraft (column 1, lines 42 - 47 and column 4, lines 49 - 55): an aircraft data services link having a processor, means for wirelessly transmitting to a data communication apparatus external to the aircraft (as seen in Figures 13 and 14 and detailed starting column 6, line 59 and ending column 7, line 29), a plurality of avionics units (column 7, lines 2 - 7); wherein said processor is responsive to data received from the data communication apparatus via said means for wireless transmitting and receiving to identify an intended destination said avionics unit from information contained in a standard format of downloaded ARINC 615 or 615A data and to provide data communication between a selectively coupled avionics unit and the data communication apparatus via said aircraft data services link (as seen in Figures 13 and 14 and detailed starting column 6, line 59 and ending column 7, line 30 and column 31, lines 46 - 54).

Wright does not specifically teach of [a plurality of avionics units coupled] to a remotely controllable switch, or to control said electronic switch [to selectively couple said intended destination said avionics unit to said aircraft data services link].

In a related art dealing with an airline data retrieval and dissemination system, Hielt teaches of an electronic switch and [a plurality of avionics units coupled] to said switch (Figure 3 and starting column 4, line 62 and ending column 5, line 21).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright's programming method, Hielt's information routing means, for the purposes accurately routing requested information to the proper terminal, as taught by Hielt.

Wright in view of Hielt, still do not teach of a remote controllable switch or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link].

In a related art dealing with avionics testing, Bird teaches of a remote controllable switch or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link] (column 5, lines 45 – 63).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright and Hielt's communication system, Bird's controllable switch, for the purposes of certifying avionics equipment without human intervention (and thus possible error), as taught by Bird.

18. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Hielt et al. (Hielt, US Patent No. 6,477,152) in view of Bird et al. (Bird, US Patent No. 5,079,707) as applied to claim 13 above, and further in view of CNS Systems Inc. (CNS Systems, INC, "Data for the Air Transport Industry").

Regarding claim 17, Wright in view of Hiatt and Bird, teach all the claimed limitations as recited in claim 13. Wright in view of Hiatt and Bird, do not specifically teach of teach wherein said means for wireless transmitting and receiving comprises an amplitude modulation receiver and transmitter.

In a related art dealing with airline data communications, CNS Systems Inc, teaches of wherein said means for wireless transmitting and receiving comprises an amplitude modulation receiver and transmitter (page 2).

It would have been obvious to one skilled in art at the time of invention to have included into Wright, Hiatt, and Bird's communication system, CNS Systems Inc's AM modulation scheme, for the purposes of cost savings, as taught by CNS Systems Inc.

19. Claims 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Hiatt et al. (Hiatt, US Patent No. 6,477,152) and Bird et al. (Bird, US Patent No. 5,079,707) as applied to claim 13 above, and further in view of Weiler et al. (Weiler, US Patent No. 5,970,395).

Regarding claim 20, Wright in view of Hiatt and Bird, teach all the claimed limitations as recited in claim 13. Wright in view of Hiatt and Bird, do not specifically teach of wherein at least two of said plurality of avionics units coupled to said remotely controllable switch are coupled to said remotely controllable switch via A429 ARINC 429 busses.

In a related art dealing with avionics equipment, Weiler teaches of wherein at least two of said plurality of avionics units coupled to said remotely controllable switch are coupled to said remotely controllable switch via A429 ARINC 429 busses (column 6, lines 14 – 22).

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It would have been obvious to one skilled in the art at the time of invention to have included into Wright, Hiatt and Bird's programming method, Weiler's bus, for the purposes of using a standardized bus already present on aircraft (thus preventing the need for additional hardware) as taught by Weiler.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanmay S Lele whose telephone number is (703) 305-3462. The examiner can normally be reached on 9 - 6:30 PM Monday – Thursdays and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on (703) 308-7745. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

✓
Tanmay S Lele
Examiner
Art Unit 2684

tsl
February 6, 2004


NAY MAUNG
SUPERVISORY PATENT EXAMINER